

Appl. No: 10/062,324
Amdt. Dated: September 2, 2005
Reply to Office action of August 19, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (currently amended): An apparatus for placement in a communication path between a wireless client device and a plurality of computer network elements, the apparatus comprising:

a data port configured to receive data in accordance with a wireless data protocol; and

a redirection engine coupled to inspect the received data to detect one or more key strings in the data corresponding to the wireless data protocol and direct corresponding data in accordance with the wireless data protocol to a particular one of the plurality of computer network elements adapted to provide a particular wireless service based on the wireless data protocol, wherein the particular one is selected from two or more computer network elements each providing differing wireless services based on differing wireless data protocol.

Claim 2 (original): The apparatus of claim 1, wherein the particular one of the plurality of computer network elements is a gateway that transforms between the wireless data protocol and a network protocol.

Claim 3 (original): The apparatus of claim 1, further comprising a wireless data packet decoding module coupled to the redirection engine.

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Claim 4 (currently amended): A method of routing wireless data protocol traffic, the method comprising:

- receiving a wireless data protocol message from a wireless client device;
- selecting a first computer network element from amongst plural computer network elements of a computer network accessible by a network information service; and
- directing to the first computer network element a data message that corresponds to the received wireless data protocol message[.];

wherein the receiving, selecting, and directing are performed at a proxy to which the wireless client device directs wireless data protocol traffic via a virtual network address.

Claim 5 (original): The method of claim 4, wherein the selecting is based at least in part on a load balance criterion.

Claim 6 (original): The method of claim 4, wherein the selecting is based at least in part on information encoded in a header of the received wireless data protocol message.

Claim 7 (original): The method of claim 4, wherein the selecting is based at least in part on content of the received wireless data protocol message.

Claim 8 (original): The method of claim 4, wherein each of the computer network elements include a gateway that transforms wireless data protocol traffic to network protocol traffic.

Claims 9-10 (cancelled)

Claim 11 (original): The method of claim 4, wherein the wireless data protocol includes support for wireless application protocol (WAP) traffic.

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Claim 12 (currently amended): A system comprising:

a wireless gateway;

a first gateway cluster, the first gateway cluster associated with a first group of computer servers, each of the computer servers in the first group of computer servers having a different Internet protocol address; and

a second gateway cluster, the second gateway cluster associated with a second group of computer servers;

wherein the wireless gateway is configured to decode previously encoded wireless data traffic packets to be sent to a selected computer server within one of the first and the second gateway clusters and wherein the wireless gateway is further configured to detect one or more key strings in the data traffic packet corresponding to a wireless service and to choose the selected computer server based on a matching of the key strings to a wireless service provided by the first or the second gateway cluster.

Claim 13 (original): The system of claim 12, wherein the first gateway cluster is an electronic mail gateway cluster and the second gateway cluster is a wireless application protocol gateway cluster.

Claim 14 (original): The system of claim 12, further comprising a third gateway cluster.

Claim 15 (original): The system of claim 14, wherein the third gateway cluster is a short message service gateway cluster.

Claim 16 (original): The system of claim 12, further comprising a load balancing server, the load balancing server coupled to the first gateway cluster and to the second gateway cluster.

Claim 17 (original): The system of claim 16, further comprising a notification server, a wireless data server and storage repository and an Internet data server and storage repository, the notification server, wireless data server and storage repository and the Internet data server and storage repository responsive to the load balancing server.

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Claim 18 (original): The system of claim 16, wherein the load balancing server allocates data traffic between the first and the second gateway cluster.

Claim 19 (currently amended): A method of processing wireless data traffic, the method comprising:

receiving wireless data traffic at a wireless gateway;

evaluating a data packet within the wireless data traffic at the wireless gateway to determine at least one of language information~~[[,]]~~ and user browser type information, ~~and data content type information;~~ and

sending a data request to a particular computer server that is located at an internet protocol address, the particular computer server determined based on at least one of the language information~~[[,]]~~ and the user browser type information, ~~and the data content type information.~~

Claim 20 (original): The method of claim 19, further comprising decoding the data packet prior to sending the data request.

Claim 21 (original): The method of claim 20, wherein the data packet is a wireless application protocol binary encoded packet data unit.

Claim 22 (original): The method of claim 19, wherein the particular computer server is an electronic mail server and further comprising communicating the data request, via an internet data packet message, to the electronic mail server.

Claim 23 (original): The method of claim 22, further comprising receiving an electronic mail message from the electronic mail server at the wireless gateway.

Claim 24 (original): The method of claim 23, further comprising binary encoding the electronic mail message into a binary encoded form.

Claim 25 (original): The method of claim 23, further comprising converting the electronic mail message into wireless application protocol format for transmission by wireless equipment to a remote mobile computing device.

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Claim 26 (currently amended): A data switching system comprising:

a first data port interface coupled to a first data communication port;

a second data port interface coupled to a second data communication port; and

a data packet parsing engine responsive to the first data port interface and the second data port interface, the data packet parsing engine including a wireless data packet evaluation routine to retrieve and to evaluate content contained within the wireless data packet[.];

wherein the content includes at least one of language information and user browser type information;

wherein the data parsing engine further includes a data packet redirection routine to formulate a data packet communication for the wireless data packet, via the second data port interface, to a particular computer server; and

wherein the particular computer server is determined based on at least one of the language information and the user browser type information.

Claims 27-29 (cancelled)

Claim 30 (original): The data switching system of claim 26, further comprising an internal data bus responsive to data packets communicated using the first and the second data ports.

Claim 31 (original): The data switching system of claim 26, further comprising a shortcut engine responsive to the parsing engine.

Claim 32 (original): The data switching system of claim 31, further comprising a shortcut table responsive to the shortcut engine.

Claim 33 (original): The data switching system of claim 26, further comprising a data packet forwarding engine responsive to the parsing engine.

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Claim 34 (original): The data switching system of claim 33, further comprising a data packet forwarding table responsive to the data packet forwarding engine.

Claim 35 (currently amended): A system comprising:

a computer network input to receive an encoded wireless data packet including wireless data content;

a decoding module responsive to the computer network input, the decoding module programmed to decode the encoded wireless data packet and to produce a decoded wireless data packet; and

a logic module programmed to implement a set of rules, the logic module to apply the set of rules to the decoded wireless data packet to determine an internet protocol address identifying a remote computer network element to receive a communication of the wireless data content, wherein the set of rules include at least one criteria selected from the group consisting of micro-browser type, service request type, language format of the wireless data content, domain name, cellular positioning of device transmitting the encoded wireless data packet, and characteristics of the device transmitting the encoded wireless data packet.

Claim 36 (currently amended): The system of claim 35, wherein the logic module determines the internet protocol address by selecting from a set of predetermined addresses, each of the predetermined addressed addresses identifying a distinct server that is a member of a multi- server cluster.

Claim 37 (original): The system of claim 35, wherein the decoding module is a binary decoding module and the encoded wireless data packet is binary encoded.

Claim 38 (original): The system of claim 35, wherein the encoded wireless data packet is a wireless data packet transmitted from a remote wireless device in accordance with the wireless application protocol (WAP).

Claim 39 (original): The system of claim 35, wherein the decoded

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wireless data packet is transmitted in accordance with a data transmission protocol over a computer network.

Claim 40 (cancelled)

Claim 41 (original): The system of claim 35, further comprising a computer server to receive and process the wireless data content.

Claim 42 (original): The system of claim 41, wherein the wireless data content includes financial transaction data and the remote computer network element comprises a computer server executing an electronic commerce application to handle a financial transaction based on the financial transaction data.

Claim 43 (original): The system of claim 35, wherein the computer network input, the decoding module, and the logic module are all contained within a gateway system and wherein the gateway system is security protected.

Claim 44 (currently amended): The system of claim 43, ~~wherein the virtual gateway system is security protected by~~ further comprising a data firewall located between the ~~virtual~~ gateway system and a public computer network.

Claim 45 (currently amended): A computer program product comprising:

a computer readable media;

a software program within the computer readable media, the software program including a logic routine to apply a set of rules to determine one of a plurality of internet addresses for directing a received wireless data protocol packet based on content of the wireless data packet; and

wherein the computer readable media is selected from the set of a disk, tape or other magnetic, optical, semiconductor or electronic storage medium and a network, wireline, wireless or other communications medium and wherein the set of rules include at least one criteria selected from the group consisting of micro-browser type, service request type, language format of the wireless data content, domain name, cellular positioning of device transmitting the encoded wireless data packet, and characteristics of the device transmitting the encoded wireless data packet.